

Title (en)  
Multiple-symbol differential detection

Title (de)  
Differenzielle Detektion über mehrere Symbole

Title (fr)  
Détection différentielle à symboles multiples

Publication  
**EP 1134946 A3 20040623 (EN)**

Application  
**EP 00127132 A 20001212**

Priority  
JP 2000076898 A 20000317

Abstract (en)  
[origin: EP1134946A2] A demodulator in a receiver has a multiple symbol differential phase detector (5) which calculates phase differences between a received signal and received signals of 1, 2, ..., N (Where N is an integer greater than 2) before so as to output the calculated results as N symbol differential phase detected signals. Further, a soft decision sequence estimating unit (51a) in this demodulator estimates a transmitted differential phase sequence according to the 1, 2, ..., N symbol differential phase detected signals using a trellis diagram representing transitions of differential phase states of a transmitted signal and Viterbi algorithm and estimates soft decision demodulated data according to estimated transmitted differential phase sequence and the survival path metrics that transit into each state on the trellis diagram. <IMAGE>

IPC 1-7  
**H04L 27/233**; H04L 25/06; H04L 25/03

IPC 8 full level  
**H03M 13/41** (2006.01); **H04L 27/22** (2006.01); **H04L 27/227** (2006.01); **H04L 27/233** (2006.01); **H04L 25/03** (2006.01)

CPC (source: EP US)  
**H04L 27/2332** (2013.01 - EP US); **H04L 25/03178** (2013.01 - EP US)

Citation (search report)  
• [AD] TOSHIHARU KOJIMA ET AL: "DIFFERENTIAL DETECTION SCHEME FOR DPSK USING PHASE SEQUENCE ESTIMATION", ELECTRONICS & COMMUNICATIONS IN JAPAN, PART I - COMMUNICATIONS, SCRIPTA TECHNICA. NEW YORK, US, vol. 77, no. 12, 1 December 1994 (1994-12-01), pages 88 - 100, XP000505190, ISSN: 8756-6621  
• [A] JONG IL PARK ET AL: "Soft output equalization techniques for /spl pi//4-DQPSK mobile radio", COMMUNICATIONS, 1997. ICC '97 MONTREAL, TOWARDS THE KNOWLEDGE MILLENNIUM. 1997 IEEE INTERNATIONAL CONFERENCE ON MONTREAL, QUE., CANADA 8-12 JUNE 1997, NEW YORK, NY, USA, IEEE, US, 8 June 1997 (1997-06-08), pages 1503 - 1507, XP010227004, ISBN: 0-7803-3925-8

Cited by  
US7440519B2; US7706482B2

Designated contracting state (EPC)  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)  
**EP 1134946 A2 20010919**; **EP 1134946 A3 20040623**; CA 2329652 A1 20010917; CA 2329652 C 20040622; CN 1235376 C 20060104; CN 1314759 A 20010926; JP 2001268147 A 20010928; JP 3776283 B2 20060517; US 2001026593 A1 20011004; US 7103107 B2 20060905

DOCDB simple family (application)  
**EP 00127132 A 20001212**; CA 2329652 A 20001227; CN 00137645 A 20001228; JP 2000076898 A 20000317; US 72653300 A 20001201